What is claimed is:

1. A method for acquiring a received spread spectrum signal, the received signal having a carrier component at a carrier frequency, a code component having a code period, and a data component, the acquiring including matching the phase of a replica of the code component to the phase of the received code component and also determining any shift in the carrier frequency away from a transmitted carrier frequency, the method comprising the steps of:

a) performing a first acquisition of the received signal so as to provide an approximately estimated carrier frequency and a phase of the replica and also so as to provide a code-wiped and an approximately carrier-wiped signal; and

b) performing a second acquisition of the approximately carrier-wiped signal, the second acquisition including a substep of data wipe-off involving a squaring or similar operation on a signal derived from the approximately carrier-wiped signal;

thereby providing a correction to the approximately estimated carrier frequency, a correction that accounts for the carrier frequency shift remaining after the first acquisition.

2. A method as claimed in claim 1, wherein the step of performing a second acquisition of the approximately carrier-wiped signal comprises the substeps of:

a) mixing the approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier

frequency determined in the step of performing a first acquisition, so as to provide a mixed signal;

b) performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

d) performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

3. A method as claimed in claim 2, wherein the first coherent processing comprises a lowpass filtering and a downsampling, and the second coherent processing comprises a coherent accumulation.

4. A method as claimed in claim 2, wherein the first coherent processing comprises an integrate and dump processing followed by a filtering, and the second coherent processing comprises a coherent accumulation.

5. A method as claimed in claim 2, wherein the first coherent processing comprises a discrete Fourier transform (DFT) processing using zero padding and output pruning, and the second

coherent processing comprises a coherent accumulation.

6. A method as claimed in claim 1, wherein the step of performing a second acquisition of the approximately carrier-wiped signal comprises the substeps of:

a) performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined in the step of performing a first acquisition, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

7. A method as claimed in claim 6, wherein in the step of performing a mixing and second coherent processing, the coherent processing includes a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulation.

8. A method as claimed in claim 1, wherein the step of

performing a second acquisition of the approximately carrier-wiped signal comprises the substeps of:

a) performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) performing a cross correlation of the data-wiped signal, the cross correlation including estimating the phase and then the correction to the approximately estimated carrier frequency.

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9. A method as claimed in claim 1, wherein the step of performing a second acquisition of the approximately carrier-wiped signal comprises the substeps of:

a) performing a common coherent processing of the approximately carrier-wiped signal so as to provide a first-processed approximately carrier-wiped signal;

b) mixing the first-processed approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined in the step of performing a first acquisition, so as to provide a mixed signal;

c) performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

e) performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

10. A method as claimed in claim 1, wherein the first acquisition is a coarse acquisition, and the second acquisition is a fine acquisition.

11. A method as claimed in claim 1, wherein the squaring is a complex squaring.

12. An apparatus for acquiring a received spread spectrum signal, the received signal having a carrier component at a carrier frequency, a code component having a code period, and a data component, the acquiring including matching the phase of a replica of the code component to the phase of the received code component and also determining any shift in the carrier frequency away from a transmitted carrier frequency, the apparatus comprising:

a) means for performing a first acquisition of the received signal so as to provide an approximately estimated carrier

frequency and a phase of the replica and also so as to provide a code-wiped and an approximately carrier-wiped signal; and

b) means for performing a second acquisition of the approximately carrier-wiped signal, the second acquisition including means for performing a data wipe-off involving a squaring or similar operation on a signal derived from the approximately carrier-wiped signal;

thereby providing a correction to the approximately estimated carrier frequency, a correction that accounts for the carrier frequency shift remaining after the first acquisition.

13. An apparatus as claimed in claim 12, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for mixing the approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined using the means for performing a first acquisition, so as to provide a mixed signal;

b) means for performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

d) means for performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) means for detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

14. An apparatus as claimed in claim 13, wherein the means for performing a first coherent processing comprises a lowpass filter and a downsampler, and the means for performing a second coherent processing comprises a coherent accumulator.

15. An apparatus as claimed in claim 13, wherein the means for performing a first coherent processing comprises an integrate and dump module followed by a filter, and the means for performing a second coherent processing comprises a coherent accumulator.

16. An apparatus as claimed in claim 13, wherein the means for performing a first coherent processing comprises a discrete Fourier transform (DFT) module using zero padding and output pruning, and the means for performing a second coherent processing comprises a coherent accumulator.

17. An apparatus as claimed in claim 12, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) means for performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined by the means for performing a first acquisition, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

18. An apparatus as claimed in claim 17, wherein the means for performing a mixing and second coherent processing includes a means for performing a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulator.

19. An apparatus as claimed in claim 12, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the

data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) means for performing a cross correlation of the data-wiped signal, the cross correlation including estimating the phase and then the correction to the approximately estimated carrier frequency.

20. An apparatus as claimed in claim 12, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a common coherent processing of the approximately carrier-wiped signal so as to provide a first-processed approximately carrier-wiped signal;

b) means for mixing the first-processed approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined using the means for performing a first acquisition, so as to provide a mixed signal;

c) means for performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

e) means for performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) means for detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

21. An apparatus as claimed in claim 12, wherein the first acquisition is a coarse acquisition, and the second acquisition is a fine acquisition.

22. An apparatus as claimed in claim 12, wherein the squaring is a complex squaring.

23. A system for acquiring a spread spectrum signal, the signal having a carrier component at a carrier frequency, a code component having a code period, and a data component, the acquiring including matching the phase of a replica of the code component to the phase of the code component and also determining any shift in the carrier frequency away from a transmitted carrier frequency, the apparatus comprising:

a) a receiver, for receiving the spread spectrum signal as a sequence of samples, for providing a received signal;

b) means for performing a first acquisition of the received signal so as to provide an approximately estimated carrier frequency and a phase of the replica and also so as to provide a code-wiped and an approximately carrier-wiped signal; and

c) means for performing a second acquisition of the approximately carrier-wiped signal, the second acquisition

including means for performing a data wipe-off involving a squaring or similar operation on a signal derived from the approximately carrier-wiped signal;

thereby providing a correction to the approximately estimated carrier frequency, a correction that accounts for the carrier frequency shift remaining after the first acquisition.

24. A system as claimed in claim 23, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for mixing the approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined using the means for performing a first acquisition, so as to provide a mixed signal;

b) means for performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

d) means for performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) means for detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

25. A system as claimed in claim 24, wherein the means for performing a first coherent processing comprises a lowpass filter and a downsampler, and the means for performing a second coherent processing comprises a coherent accumulator.

26. A system as claimed in claim 24, wherein the means for performing a first coherent processing comprises an integrate and dump module followed by a filter, and the means for performing a second coherent processing comprises a coherent accumulator.

27. A system as claimed in claim 24, wherein the means for performing a first coherent processing comprises a discrete Fourier transform (DFT) module using zero padding and output pruning, and the means for performing a second coherent processing comprises a coherent accumulator.

28. A system as claimed in claim 23, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) means for performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined by the means for performing a first acquisition, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

29. A system as claimed in claim 28, wherein the means for performing a mixing and second coherent processing includes a means for performing a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulator.

30. A system as claimed in claim 23, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition; and

c) means for performing a cross correlation of the data-wiped signal, the cross correlation including estimating the

phase and then the correction to the approximately estimated carrier frequency.

31. A system as claimed in claim 23, wherein the means for performing a second acquisition of the approximately carrier-wiped signal comprises:

a) means for performing a common coherent processing of the approximately carrier-wiped signal so as to provide a first-processed approximately carrier-wiped signal;

b) means for mixing the first-processed approximately carrier-wiped signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial corrections to the approximately estimated carrier frequency determined using the means for performing a first acquisition, so as to provide a mixed signal;

c) means for performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency shift remaining after the first acquisition;

e) means for performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) means for detecting the best value to use for the correction to the approximately estimated carrier frequency based on the further correlated and filtered signal for each different trial frequency correction.

32. A system as claimed in claim 23, wherein the first acquisition is a coarse acquisition, and the second acquisition is a fine acquisition.

33. A system as claimed in claim 23, wherein the squaring is a complex squaring.

34. The system as claimed in claim 23, wherein at least some of the means for performing either all or part of the first acquisition or all or part of the second acquisition are performed by computing facilities external to the receiver, such as by computing facilities that are part of an outside network.

35. A method for acquiring a signal having a carrier component at a carrier frequency and a data component, the acquiring including determining the carrier frequency, the method comprising the steps of:

a) providing a signal including a carrier component and a data component;

b) performing an acquisition of the signal, the acquisition including a substep of data wipe-off involving a squaring or similar operation on the provided signal;

thereby acquiring the signal to a finer resolution than would be possible without performing a data wipe-off of the data component.

36. A method as claimed in claim 35, wherein the step of performing an acquisition of the signal comprises the substeps of:

a) mixing the signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

b) performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency;

d) performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency estimate.

37. A method as claimed in claim 35, wherein the step of performing an acquisition of the signal comprises the substeps of:

a) performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency; and

c) performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

38. A method as claimed in claim 37, wherein in the step of performing a mixing and second coherent processing, the coherent processing includes a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulation.

39. A method as claimed in claim 35, wherein the step of performing an acquisition of the signal comprises the substeps of:

a) performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal; and

c) performing a cross correlation of the data-wiped signal, the cross correlation including estimating the phase and then the carrier frequency of the signal.

40. A method as claimed in claim 35, wherein the step of performing an acquisition of the signal comprises the substeps of:

a) performing a common coherent processing of the signal so as to provide a first-processed signal;

b) mixing the first-processed signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

c) performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal;

e) performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency.

41. An apparatus for acquiring a signal having a carrier component at a carrier frequency and a data component, the acquiring including determining the carrier frequency, the apparatus comprising:

a) means for providing a signal including a carrier component and a data component;

b) means for performing an acquisition of the signal, the acquisition including means for performing a data wipe-off involving a squaring or similar operation on the provided signal;

thereby acquiring the signal to a finer resolution than would be possible without performing a data wipe-off of the data component.

42. An apparatus as claimed in claim 41, wherein the means for performing an acquisition of the signal comprises:

a) means for mixing the signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

b) means for performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency;

d) means for performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) means for detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency estimate.

43. An apparatus as claimed in claim 41, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency; and

c) means for performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

44. An apparatus as claimed in claim 43, wherein the means for performing a mixing and second coherent processing includes means for performing a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulation.

45. An apparatus as claimed in claim 41, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on

the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal; and

c) means for performing a cross correlation of the data-wiped signal, the cross correlation including estimating the phase and then the carrier frequency of the signal.

46. An apparatus as claimed in claim 41, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a common coherent processing of the signal so as to provide a first-processed signal;

b) means for mixing the first-processed signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

c) means for performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal;

e) means for performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) means for detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency.

47. A system for acquiring a signal having a carrier component at a carrier frequency and a data component, the acquiring including determining the carrier frequency, the system comprising:

a) a receiver, for receiving the signal as a sequence of samples, for providing a received signal including a carrier component and a data component;

b) means for performing an acquisition of the signal, the acquisition including means for performing a data wipe-off involving a squaring or similar operation on the received signal;

thereby acquiring the signal to a finer resolution than would be possible without performing a data wipe-off of the data component.

48. A system as claimed in claim 47, wherein the means for performing an acquisition of the signal comprises:

a) means for mixing the signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

b) means for performing a first coherent processing of the mixed signal so as to provide a carrier-amplified signal;

c) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on

the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency;

d) means for performing a second coherent processing of the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

e) means for detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency estimate.

49. A system as claimed in claim 47, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency; and

c) means for performing a mixing and second coherent processing, the mixing being performed on the data-wiped signal using a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, to provide a mixed and data-wiped signal, and the second coherent processing being performed on the mixed and data-wiped signal, the second coherent processing for providing a further correlated and filtered signal.

50. A system as claimed in claim 43, wherein the means for

performing a mixing and second coherent processing includes means for performing a discrete Fourier transform of the mixed and data-wiped signal followed by an accumulation.

51. A system as claimed in claim 47, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a first coherent processing of the approximately carrier-wiped signal so as to provide a carrier-amplified signal;

b) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal; and

c) means for performing a cross correlation of the data-wiped signal, the cross correlation including estimating the phase and then the carrier frequency of the signal.

52. A system as claimed in claim 47, wherein the means for performing an acquisition of the signal comprises:

a) means for performing a common coherent processing of the signal so as to provide a first-processed signal;

b) means for mixing the first-processed signal with a plurality of sinusoids in turn, each sinusoid at a different frequency in a range of frequencies serving as trial estimates of the carrier frequency, so as to provide a mixed signal;

c) means for performing a first coherent channel processing of the mixed signal so as to provide a carrier-amplified signal;

d) means for performing a data wipeoff using the carrier-amplified signal so as to provide a data-wiped signal, the data wipeoff including a squaring or similar operation on the carrier-amplified signal, thus retaining in the data-wiped signal, information about the carrier frequency of the signal;

e) means for performing a second coherent channel processing on the data-wiped signal, the second coherent processing for providing a further correlated and filtered signal; and

f) means for detecting the best value to use for the estimate of the carrier frequency based on the further correlated and filtered signal for each different trial frequency.